

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
13 December 2001 (13.12.2001)

PCT

(10) International Publication Number  
WO 01/95209 A2

- (51) International Patent Classification<sup>7</sup>: G06F 17/60
- (21) International Application Number: PCT/US01/17703
- (22) International Filing Date: 1 June 2001 (01.06.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
09/585,316 2 June 2000 (02.06.2000) US
- (71) Applicant: NETWORK SOLUTIONS, INC. [US/US];  
505 Huntmar Park Drive, Herndon, VA 20170-5139 (US).
- (72) Inventors: BROADHURST, Larry, J.; 8606 Pine Shores,  
Humble, TX 77346 (US). JOHNSON, Jeffrey, W.; 20902  
Trinity Square, Sterling, VA 20165 (US). HO, Matt; 6336  
Hidden Canyon Road, Centreville, VA 20120 (US). LIB-  
ERTY, Matthew, E.; 1536 Westmoreland Street, McLean,  
VA 22101 (US).
- (74) Agents: BERNSTEIN, Frank, L. et al.; Sughrue, Mion,  
Zinn, Macpeak & Seas, PLLC, 2100 Pennsylvania Ave.,  
NW, Suite 800, Washington, DC 20037 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,  
SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European  
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:**  
— with declaration under Article 17(2)(a); without abstract;  
title not checked by the International Searching Authority
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



WO 01/95209 A2

*applicant*

(54) Title: AUTOMATED DOMAIN NAME REGISTRATION

(57) Abstract:

## **AUTOMATED DOMAIN NAME REGISTRATION**

### **FIELD OF INVENTION**

The present invention relates generally to the systems and methodologies of a domain name registration system and, more specifically, to an automated registration method incorporating real-time searches to determine the availability of a proposed domain name  
5 in multiple countries, and the ability to handle multinational registration requests, thereby allowing a user to register a domain name in multiple countries within a single web session.

### **BACKGROUND OF INVENTION**

The Internet is an increasingly international network of computers that supports  
10 various forms and levels of communication. For instance, on the World Wide Web ("WWW"), information can be presented on universally available pages commonly known as "Websites." The Internet also supports one-on-one communication between end-users via electronic email and/or Internet bulletin board services. The common denominator in every form of communication over the Internet, however, is the use of  
15 Domain names to identify the computer to be contacted. The Domain name, which is referred to as an Internet protocol ("IP") number, is actually a unique combination of numbers separated by decimal points.

Because IP numbers can be cumbersome and difficult for Internet users to remember or practically use, the IP numbering system has been overlaid with the more user-friendly  
20 domain name system. This system allows Internet addresses to be assigned an alphanumeric designation or domain name, which directly correlates to the assigned IP

number. Special computers known as domain name servers maintain tables linking domain names to their respective IP numbers.

The anatomy domain name consists of more than two parts is Fig. 6, called domain levels, separated by a period (called a "dot"). The Top-Level-Domain level ("TLD"), which is referred to by its Internet zone designation, ".com," or ".gov.," ".uk," etc., is found to the right of the dot. TLDs which represent a specific country are referred to as Country-Code TLDs, or ccTLDs. The Second-Level-Domain ("SLD") or Third Level Domain, which is commonly referred to as the "domain name," consists of characters (including letters, numbers, and hyphens) located immediately to the left of the dot.

10 For the domain name address system to operate properly, each "domain name" within a particular TLD must be unique, even if it differs from another "domain name" by only one character. In order to prevent duplicate "domain names" from being assigned, a single entity, commonly referred to as a "Registry," is ultimately responsible for maintaining a complete database of all of the "domain names" in each particular TLD

15 In the majority of generic (e.g., .com, .net, .org) domain name ("gTLD") registrations, there is little or no human intervention in the registration process. A computerized database maintained by the registry electronically records the assigned relationship between the more easily remembered domain name and its corresponding IP number (received from an international entity tasked with assigning all IP numbers) and reports  
20 this information to the TLD registry for recordation in the master database of all "domain names". The registrar also enters into a registration agreement (contract) with each registrant, and records and maintains vital registrant contact and billing information.

Due to the vital role domain names play in Internet communication, the easy, immediate, secure, and dependable registration and maintenance of domain names is necessary to the continued rapid growth of the Internet. Traditionally, these tasks have been undertaken by a single registrar in each TLD. The Internet, however, continues to grow at unprecedented rates. For example, in 1993, there were only about one million computers linked to the Internet. By 1999, the number of Internet users had exceeded 200 million as businesses and individuals adopted the Internet for various personal and commercial uses. This phenomenal increase in the number of users obviously led to an equally impressive increase in the number of "domain name" registrations. This increase, coupled with the probable advantages brought about by free competition and choice in the registration process, has fostered and promoted the idea of multiple registrars in a single TLD.

Many companies are also realizing the importance of registering their "domain names" and trademarks in every possible TLD, including not only the gTLDs, but also the 350 plus ccTLDs across the globe. However, with over 350 possible ccTLD, each with unique registration requirements and availabilities, the registration process can be quite cumbersome. As an example, most ccTLD registries have different data formats for the registration process; and certain ccTLD registries have limited payment formats such as only accepting payments in their own country's currency. Because each ccTLD registry can have different registration processes, a global registration of a single domain name can take months.

The existing system at [www.idnames.com](http://www.idnames.com), allows a user to search and register their “domain name(s)” in multiple ccTLDs, however the searching is not done in real-time and much of the backend registration process must be done manually by people.

As shown in Fig. 1, a typical conventional system is connected to the Internet 1 via the registrar's web server 2. The web server 2 can include multiple servers running in parallel. As users input search requests, the web server 2 compiles a search request file 11, and after a predetermined amount of time or requests are counted, web server 2 forwards the search request file 11 to the second tier, or application server 3. A typical amount of time between transfers has been approximately 30 minutes. Application server 3 combines the search request files 11 into cumulated search request file 12 and executes the search requests in serial against the Domain Name System (“DNS”) 6. The system can also accept and process payment information through credit card data base 7, and maintain internal records of the searches and registrations in database 8. When a particular search has been completed, the user is notified, e.g., by email or mail, so that the user can then select from among the available ccTLDs and send the selections with payment back to the registrar. Registrar personnel then orchestrate the necessary forms and payments to register the user's proposed “domain name” with each of the chosen ccTLDs.

Examples of existing online registration facilities which allow registration of domain names with several different ccTLDs can be found on the Internet at places such as, [www.alldomains.com](http://www.alldomains.com), [www.register.com](http://www.register.com), [www.completedomains.com](http://www.completedomains.com), and [www.netnames.com](http://www.netnames.com).

Of these facilities, [www.completedomains.com](http://www.completedomains.com) appears to offer online submissions of payment for seemingly automated registration, but utilizes dropdown menus which require the user to select in advance a single ccTLD to search. In addition, the dropdown menu only lists the ccTLD, not the country. With over 188ccTLDs, most users cannot easily determine which countries the ccTLD represents (i.e., is .au Austria or Australia). [www.alldomains.com](http://www.alldomains.com) also requires the user to individually search every ccTLD of interest and requires the user to know the ccTLD-country correlation.

[www.netnames.com](http://www.netnames.com) only allows a user to search and register domain names online in the gTLDs (i.e., .com, .net, .org) or the ccTLD of the hosting company's country (in that case, the UK). The rest of the ccTLDs must be purchased offline. Similarly, [www.register.com](http://www.register.com) limits the user to searching for three ccTLDs at a time.

One reason why existing ccTLD searching is limited to single or small numbers of ccTLDs at any given time, is to protect the web site and associated backbone system from an overload situation. Because of the large number of ccTLDs, if numerous users attempted to search numerous ccTLDs, the existing search mechanisms would quickly bog down. Thus, providers of this type of service have either provided only offline, non-real-time searching, or limited the number of ccTLDs that can be searched at any given time to small numbers, to prevent users from inadvertently overloading their systems.

None of the existing web sites offer a complete online package that allows a user to automatically search and register available domain names in a large number of ccTLDs (e.g., 10 or more) from different countries.

## SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a highly automated online system and method for permitting users to find and register available domain names in more than 10 different ccTLDs.

5 It is also an object of the invention to provide real-time searching of over 100 different ccTLD for each user in a few minutes or less.

It is another object of the invention to provide a real-time searching mechanism for multiple ccTLDs that is scalable.

10 It is also an object of the invention to provide an online environment which allows the user to select the available ccTLDs from a list of available ccTLDs, and purchase the desired ccTLDs online.

It is another object of the invention to provide a system which formats a user's information in the appropriate manner for each selected ccTLD and automatically performs the necessary transactions to register each ccTLD.

15 As the international leader in the development of domain name registry and registrar procedures, protocol, and infrastructure, Network Solutions, Inc., through the named inventors, has developed a highly automated system and method to accomplish the above and other goals. The system permits users to find and register available domain names in over 100 different ccTLD options. This system provides real-time searching of large  
20 numbers (e.g., 10-hundreds) of ccTLDs for each user. The real-time nature of the searches allows completion of a search of approximately 100 registration options in less than a few minutes, and in a preferred embodiment, in less than 30 seconds. Thus, the entire search is completed in real-time, i.e., within a reasonable online website session.

After the search, the user can simply select the available ccTLDs from the resultant list, and purchase the desired ccTLDs online. The system formats the user's information in the appropriate manner for each selected ccTLD and performs the necessary electronic transactions to register each ccTLD.

5

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a network diagram of a typical prior art system for searching and registering ccTLDs;

Fig. 2 is a flow chart depicting a method of searching and registering multiple ccTLDs according the one embodiment of the present invention;

10 Fig. 3 is a network diagram of a system according to one embodiment of the present invention for searching and registering ccTLDs;

Fig. 4 is a conceptual illustration of a sample registration template for use with a particular ccTLD; and

15 Fig. 5 is a conceptual illustration of a sample screen seen by a user according to one embodiment of the invention.

Fig. 6 is the anatomy of a domain name that defines the various subparts of a domain name

## DETAILED DESCRIPTION OF THE INVENTION

Aspects of the present invention, as depicted in Figs. 2-5, provide an automated  
20 method for searching, selecting, and registering domain names with different ccTLDs.

Fig. 2 is a flowchart outlining the method of online registration according to an embodiment of the present invention. As shown therein, the system accepts an inputted proposed "domain name" from a user via a website (s100). The system then searches for



the proposed "domain name" (s101) in numerous (e.g.,  $\geq 10$ ) ccTLDs from different countries to determine if the proposed "domain name" is available in each of the ccTLDs. During the search process (s101), the system creates and updates a list of available ccTLDs based on the search results as the results are obtained (s102). The website can refresh its reading of the list to display the available ccTLDs for the proposed SLD, during the search.

When the search has completed, the system allows the user to select/deselect the available ccTLDs for registration from the website (s103). The system then accepts the user's inputted personal data, an indication of the ccTLDs that the user has selected for registration of the second/third level "domain name", and payment information (s104). This information can be taken at any time during the process, but in this embodiment, the information is taken after the search so that the user can perform trial searches without feeling obligated or burdened. Using this information, the system generates registration templates for the registration of the selected ccTLDs. The registration templates are formatted based on the requirements of the appropriate ccTLD registries corresponding to the ccTLDs (s105). The templates are then forwarded to the appropriate registry for each selected ccTLD (s106).

Depending on the country, the processing at the registry could be manual or automated. However, that aspect is hidden from the user, as the present invention automates the process at least up to the point where the information is sent to the registry of the various countries. Notification of the user that a registration is complete can be done in any number of ways, including email from the system according to the present invention, or email directly from the individual ccTLD registry.

Fig. 3 depicts an overview of a system according to a preferred embodiment of the present invention. As shown therein, a user connects to the registrar's web server 32 via the internet 1. Application server 33 is programmed to maintain a pool of request threads for managing the requests and transferring information regarding the requests between  
5 web server 32 and application server 33. Web server 32 inputs the user's search request information and obtains a request thread 34 from application server 33. If the user inputs more than one "domain name" to be searched, the system will allocate additional request threads 34 as needed. Web server 32 then returns the request thread 34 containing search information such as the "domain name" and the ccTLDs to be searched (default can be  
10 all ccTLDs), to application server 33.

Application server 33 is programmed to break down the search request into batches of for example, 10-20 ccTLDs each. Each batch is assigned to a search thread 30, which in the preferred embodiment, are defined as objects in an object-oriented data model (using e.g., Java, C++, etc...) so that they operate 'independently' of each other. Each search  
15 thread 30 searches a small number of ccTLDs (e.g., 10-20) on the DNS 6, so that a single thread does not bog down the system. Each search thread 30 sends the results of its search to results list 31, which web server 32 frequently rereads to update the user on the search progress. When a search thread 30 is done it waits in search thread pool 35 for the next search request or the next group of ccTLDs in the same search request.

20 Search thread pool 35 provides a robust, real-time search mechanism, because it allows the reuse of objects in an object oriented data model. The search threads 30 are kept 'alive' in thread pool 35, but enter a 'sleep' or inactive mode. This reduces time because the search threads 30 do not need to be recreated for each search.

The number of search threads 30 in pool 35 can be controlled. The number can be a limited number of search threads 30 based on system capabilities to help avoid overloading the system. In addition, the number of search threads 30 is dynamic and can be optimized by a system administrator (manually or automatically) to better serve the  
5 search requests.

The search thread pool 35 thus provides a scalable search mechanism. Since DNS 6 can be multiprocessor-based, and the search threads 30 can operate independently of each other, the search threads 30 can be carried out at the same time in parallel on different processors to speed up the overall search. And as demands increase, the search  
10 mechanism can be scaled along with the DNS 6, e.g., as more CPUs are added to the DNS 6, more search threads 30 can be allocated to the search thread pool 35.

Fig. 4 is conceptual illustration of a sample registration template 40 for use with a particular ccTLD. As shown therein, the template 40 includes user or registrant information 41 such as name, address, etc., the proposed "domain name" 42 and ccTLD  
15 43, and payment information 44 according to the particular ccTLD.

Fig. 5 is an example of a screen 50 seen by a user during a search, according to one embodiment of the invention. As shown therein, the embodiment provides the user with the status 51 of the number of ccTLDs searched during the search. The system can also provide the user with a growing list 52 of search results. The search results in this  
20 embodiment are displayed with an indication of the country 53 corresponding to each ccTLD, along with an indication of the availability 54 of the ccTLD.

Another important aspect of the invention is the ability to automate the process of setting up the appropriate DNS Zone Files to support the submission of a domain name

template to the appropriate ccTLD registry, (S107) in Fig. 2. To successfully process a submitted domain name template, many ccTLD registry's require that DNS Zone Files (DNS Zone Files contain the Primary and Secondary DNS server name and IP address) be set-up PRIOR to the acceptance of a domain name registration template.

5           There are two options provided to an end-user of the invention to set-up DNS Zone Files. Option A is the an Easy Set-Up option that will allow the user to elect that Network Solutions automatically set-up and host the necessary DNS Zone Files to support the domain name registration templates sent to all selected ccTLD registry's; the Primary and Secondary DNS information required is provided by NSI and displayed for  
10   the end-user in data entry fields that are shaded to indicate that the end-user is not required to input information in those fields. Option B is an Expert Set-Up option that allows the user to select the option and then enter the Primary and Secondary Name Server and IP Address they elect to use to support their requested domain name registrations.

15           If an end-user elects to choose Option B (Expert Set-Up) and enter the appropriate information, the invention will perform a DNS validity check to ensure that the DNS Zone Files are set-up in a manner that will resolve the requested domain name in the requested ccTLD properly to the Primary and Secondary DNS Server IP addresses. If the DNS information provided by the end-user is not set-up properly to allow Primary and  
20   Secondary IP address resolution a message will be returned to the user to identify the error. Additional information will be provided to the end-user to assist him/her in properly setting-up the necessary DNS Zone Files PRIOR to continuing in the automated ccTLD registration process.

Other modifications and variations to the invention will be apparent to those skilled in the art from the foregoing disclosure and teachings. Thus, while only certain embodiments of the invention have been specifically described herein, it will be apparent that numerous modifications may be made thereto without departing from the spirit and scope of the invention. For example, parts of the present invention are preferably implemented using an object-oriented language such as the JAVA or C++ language, but is certainly not limited to either of these languages. Rather, the present invention includes any language that can practice the invention as outlined in the appended claims. In addition, the number, arrangement, and connectivity of the relevant computers including servers, databases, and network equipment, can be modified in many configurations and still practice the invention as claimed. Also, while the above registration process had been described as occurring within a single website session, the present invention contemplates providing a 'park and return' option so that the user can take a break from the session and return later without having to redo the entire session. Finally, while the above description refers to foreign registration entities as registries, it is within the scope of the invention to forward information to intermediaries which subsequently forward information to the appropriate registries, or to some other entity which performs the final registration of the domain name.

We claim:

- 1 1. A method performed by a computer system of automatically searching for Internet  
2 domain names that are available for registration, comprising:  
3     accepting a proposed "domain name" from a user via a website session;  
4     transferring the proposed "DOMAIN NAME" to an automated search mechanism,  
5 said search mechanism searching during the website session for the proposed "domain  
6 name" in more than ten ccTLDs from different countries to determine if the proposed  
7 "domain name" is available in each of the ccTLDs;  
8     returning a list to the website session of available ccTLDs for the proposed "domain  
9 name";  
10     allowing the user to select/deselect among the available ccTLDs for registration from  
11 the website session;  
12     accepting user personal data, an indication of the ccTLDs that the user has selected  
13 for registration of said "domain name" and user payment information;  
14     generating registration templates for the registration of the selected ccTLDs, said  
15 registration templates being formatted based on the requirements of the corresponding  
16 ccTLDs;  
17     forwarding said registration templates to appropriate registry for the selected  
18 ccTLDs.
- 1 2. A method according to claim 1, further comprising accepting multiple proposed  
2 "domain names" at the same time.
- 1 3. A method according to claim 1, further comprising providing the user with an option  
2 to select or deselect all of the available ccTLDs.

- 1 4. A method according to claim 1, wherein said returned list includes an indication of  
2 unavailable ccTLDs.
- 1 5. A method according to claim 1, wherein said search request is represented by a  
2 request thread from a pool of request threads.
- 1 6. A method according to claim 1, wherein said searching comprises the use of search  
2 threads from a pool of search threads.
- 1 7. A method according to claim 6, wherein said search threads are defined as objects in  
2 an object oriented data model.
- 1 8. A method according to claim 7, wherein said pool of search threads has a fixed  
2 number of search threads.
- 1 9. A method according to claim 7, wherein said pool of search threads has an adjustable  
2 number of search threads.
- 1 10. A method according to claim 7, wherein said searching for the proposed "domain  
2 name" is divided into subsearches, each subsearch being conducted by one search thread  
3 and corresponding to a subset of the ccTLDs to be searched for the proposed "domain  
4 name".
- 1 11. A method according to claim 10, wherein said search threads individually return the  
2 results of the subsearches during the website session so that the user is kept apprised of  
3 the progress of said search.

1 12. A method according to claim 1, wherein said entire method only requires the user to  
2 engage in a single web session.

1 13. A method according to claim 1, further comprising providing the user with a park and  
2 return option to save the website session until the user logs in at a later time.

1 14. A computer system programmed to search for Internet domain names that are  
2 available for registration, comprising:

3 a system of at least one computer;

4 software instructions running on said system, said instructions causing said system to:

5 accept a proposed "domain name" from a user via a website session;

6 transfer the proposed "domain name" to an automated search mechanism, said

7 search mechanism operable to search during the website session for the proposed

8 "domain name" in more than ten ccTLDs from different countries to determine if the

9 proposed "domain name" is available in each of the ccTLDs;

10 return a list to the website session of available ccTLDs for the proposed "domain  
11 name";

12 allow the user to select/deselect among the available ccTLDs for registration from  
13 the website session;

14 accept user personal data, an indication of the ccTLDs that the user has selected  
15 for registration of said "domain name" and user payment information;

16 generate registration templates for the registration of the selected ccTLDs, said  
17 registration templates being formatted based on the requirements of the corresponding  
18 ccTLDs;



19 forward said registration templates to appropriate registry for the selected  
20 ccTLDs.

1 15. A system according to claim 14, wherein the software further allows said system to  
2 accept multiple proposed "domain names" at the same time.

1 16. A system according to claim 14, wherein the software further allows said system to  
2 provide the user with an option to select or deselect all of the available ccTLDs.

1 17. A system according to claim 14, wherein said returned list includes an indication of  
2 unavailable ccTLDs.

1 18. A system according to claim 14, wherein said software represents said search request  
2 by a request thread from a pool of request threads defined in said software.

1 19. A system according to claim 14, wherein said searching comprises the use of search  
2 threads from a pool of search threads.

1 20. A system according to claim 19, wherein said software defines said search threads as  
2 objects in an object oriented data model.

1 21. A system according to claim 20, wherein said pool of search threads has a fixed  
2 number of search threads.

1 22. A system according to claim 20, wherein said pool of search threads has an adjustable  
2 number of search threads.

1 23. A system according to claim 20, wherein said software divides said searching for the  
2 proposed SLD into subsearches, each subsearch being conducted by one search thread  
3 and corresponding to a subset of the ccTLDs to be searched for the proposed "domain  
4 name".

1 24. A system according to claim 23, wherein said search threads individually return the  
2 results of the subsearches during the website session so that the user is kept apprised of  
3 the progress of said search.

1 25. A system according to claim 14, wherein said registration only requires the user to  
2 engage in a single web session.

1 26. A system according to claim 14, wherein said software instructions provide the user  
2 with a park and return option to save the website session until the user logs in at a later  
3 time.

1 27. A method performed by a computer system of automatically searching for Internet  
2 domain names that are available for registration, comprising:

3 accepting a proposed "domain name" from a user via a website session;  
4 transferring the proposed "domain name" to an automated search mechanism;  
5 conducting a search using said search mechanism for the proposed "domain name" in  
6 more than ten ccTLDs from different countries to determine if the proposed "domain  
7 name" is available in each of the ccTLDs, said search mechanism dividing said search  
8 into batches of ccTLDs and assigning each batch to a search thread in a search thread  
9 pool, said search threads conducting a subset of said search.

1 28. A method according to claim 27, wherein said search threads are defined as objects in  
2 an object oriented data model.

1 29. A method according to claim 28, wherein said pool of search threads has a fixed  
2 number of search threads.

1 30. A method according to claim 28, wherein said pool of search threads has an  
2 adjustable number of search threads.

1 31. A method according to claim 28, wherein said searching for the proposed "domain  
2 name" is divided into subsearches, each subsearch being conducted by one search thread  
3 and corresponding to a subset of the ccTLDs to be searched for the proposed "domain  
4 name" .

1 32. A method according to claim 31, wherein said search threads individually return the  
2 results of the subsearches during the website session so that the user is kept apprised of  
3 the progress of said search.

1 33. A computer system for searching for Internet domain names that are available for  
2 registration, comprising:

3 a system of at least one computer programmed by software instructions to:

4 accept a proposed "domain name" from a user via a website session;

5 transfer the proposed "domain name" to an automated search mechanism; and

6 conduct a search using said search mechanism for the proposed "domain name"

7 in more than ten ccTLDs from different countries to determine if the proposed "domain

8 name" is available in each of the ccTLDs, said search mechanism dividing said search

9 into batches of ccTLDs and assigning each batch to a search thread in a search thread  
10 pool, said search threads conducting a subset of said search.

1 34. A system according to claim 33, wherein said search threads are defined as objects in  
2 an object oriented data model.

1 35. A system according to claim 34, wherein said pool of search threads has a fixed  
2 number of search threads.

1 36. A system according to claim 34, wherein said pool of search threads has an adjustable  
2 number of search threads.

1 37. A system according to claim 34, wherein said searching for the proposed "domain  
2 name" is divided into subsearches, each subsearch being conducted by one search thread  
3 and corresponding to a subset of the ccTLDs to be searched for the proposed "domain  
4 name".

1 38. A system according to claim 37, wherein said search threads individually return the  
2 results of the subsearches during the website session so that the user is kept apprised of  
3 the progress of said search.

1 39. A method performed by a computer system of automatically searching for internet  
2 domain names that are available for registration, comprising:  
3 displaying a website session on a user's computer;  
4 inputting a proposed "domain name" from said user into said computer as instructed  
5 by said website session;

6 displaying on said website session, more than ten ccTLDs from different countries in  
7 which the "domain name" is available to be registered;  
8 allowing the user to select/deselect among the available ccTLDs for registration as  
9 instructed by said website session;  
10 inputting from said user as instructed by said website session, user personal data, an  
11 indication of the ccTLDs that the user has selected for registration of said "domain  
12 name", and user payment information.

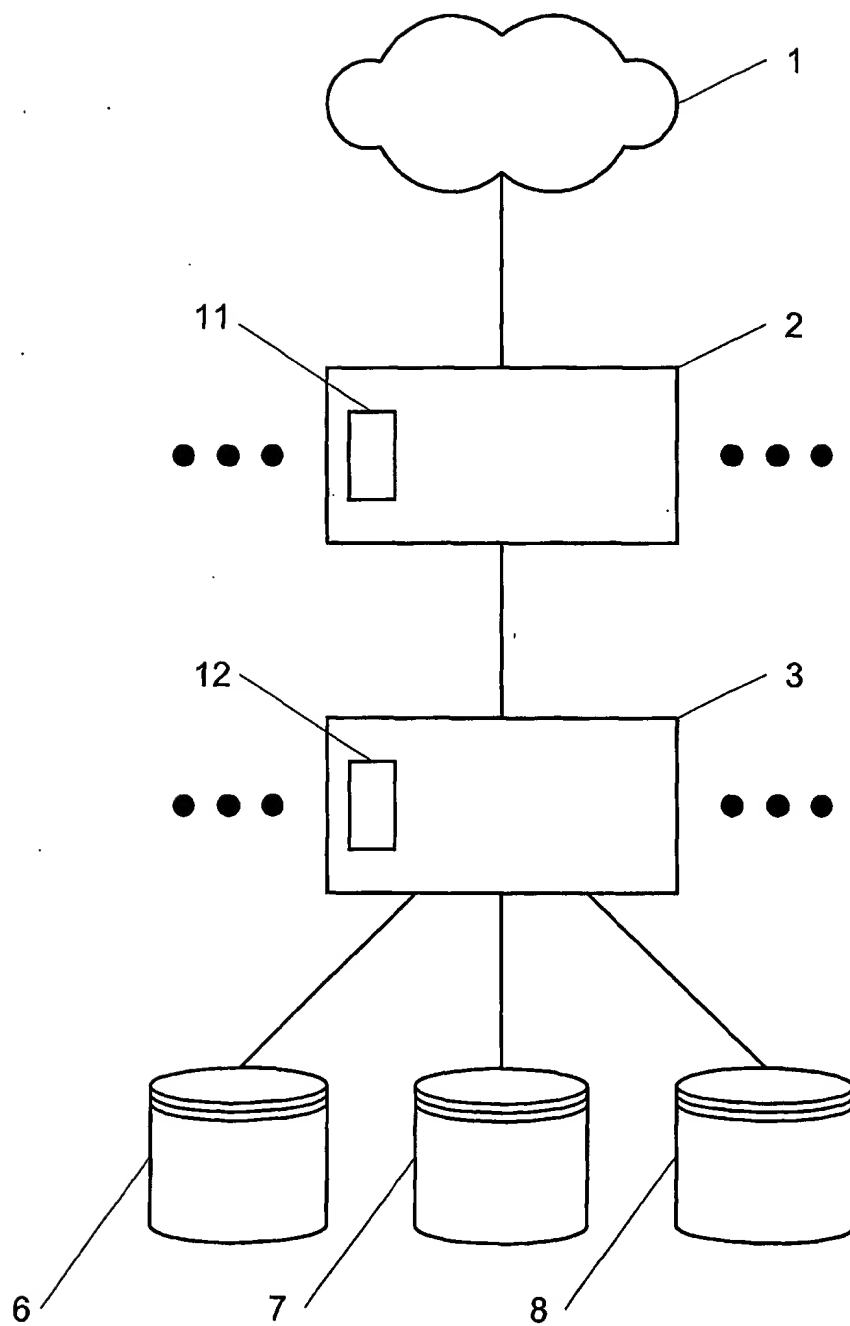
1 40. A method according to claim 39, further comprising accepting multiple proposed  
2 "domain names" at the same time.

1 41. A method according to claim 39, wherein said entire method only requires the user to  
2 engage in a single website session.

1 42. A method according to claim 39, further comprising providing the user with a park  
2 and return option to save the website session until the user logs in at a later time.

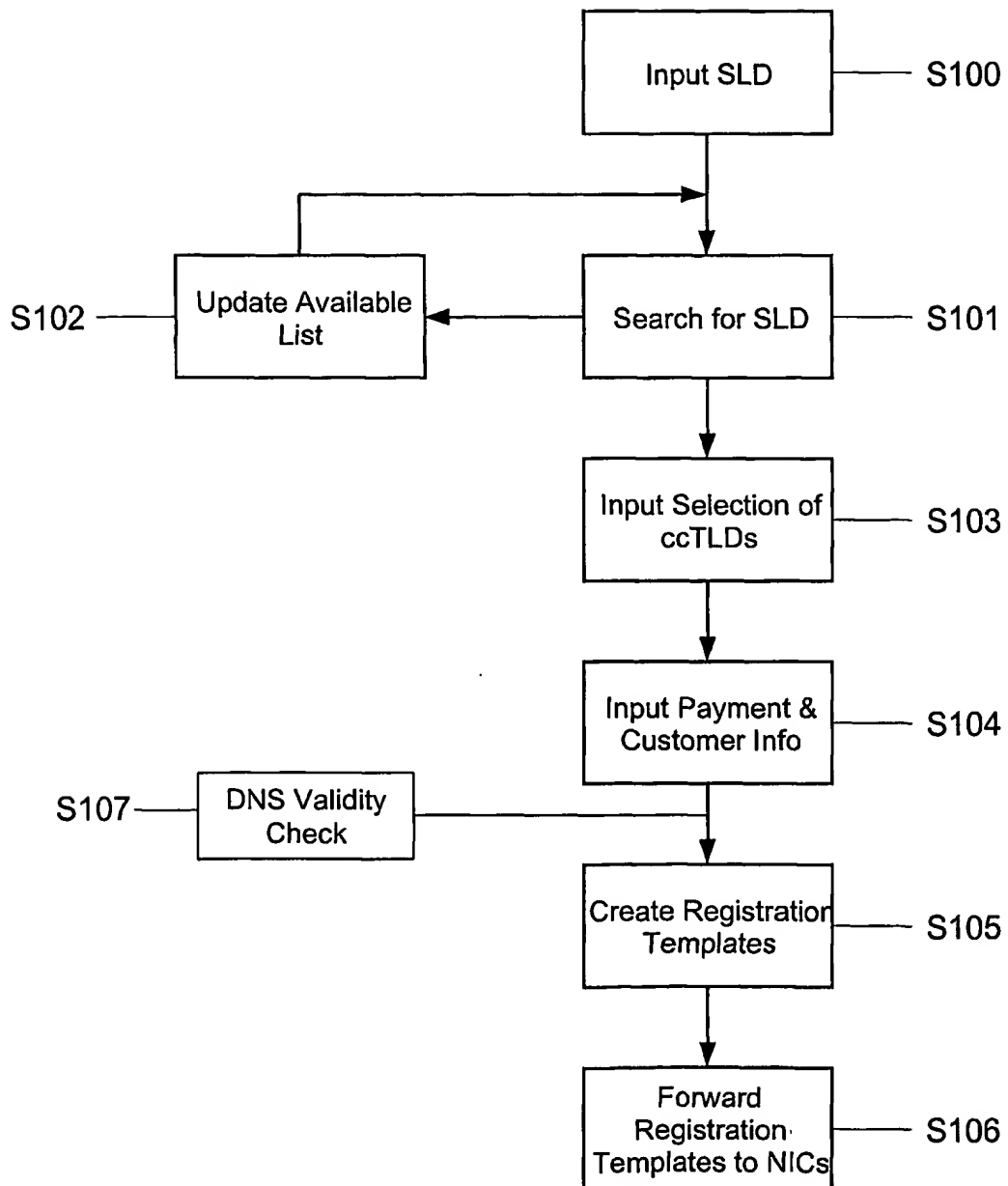
1/6

**Fig. 1**  
**Prior Art**



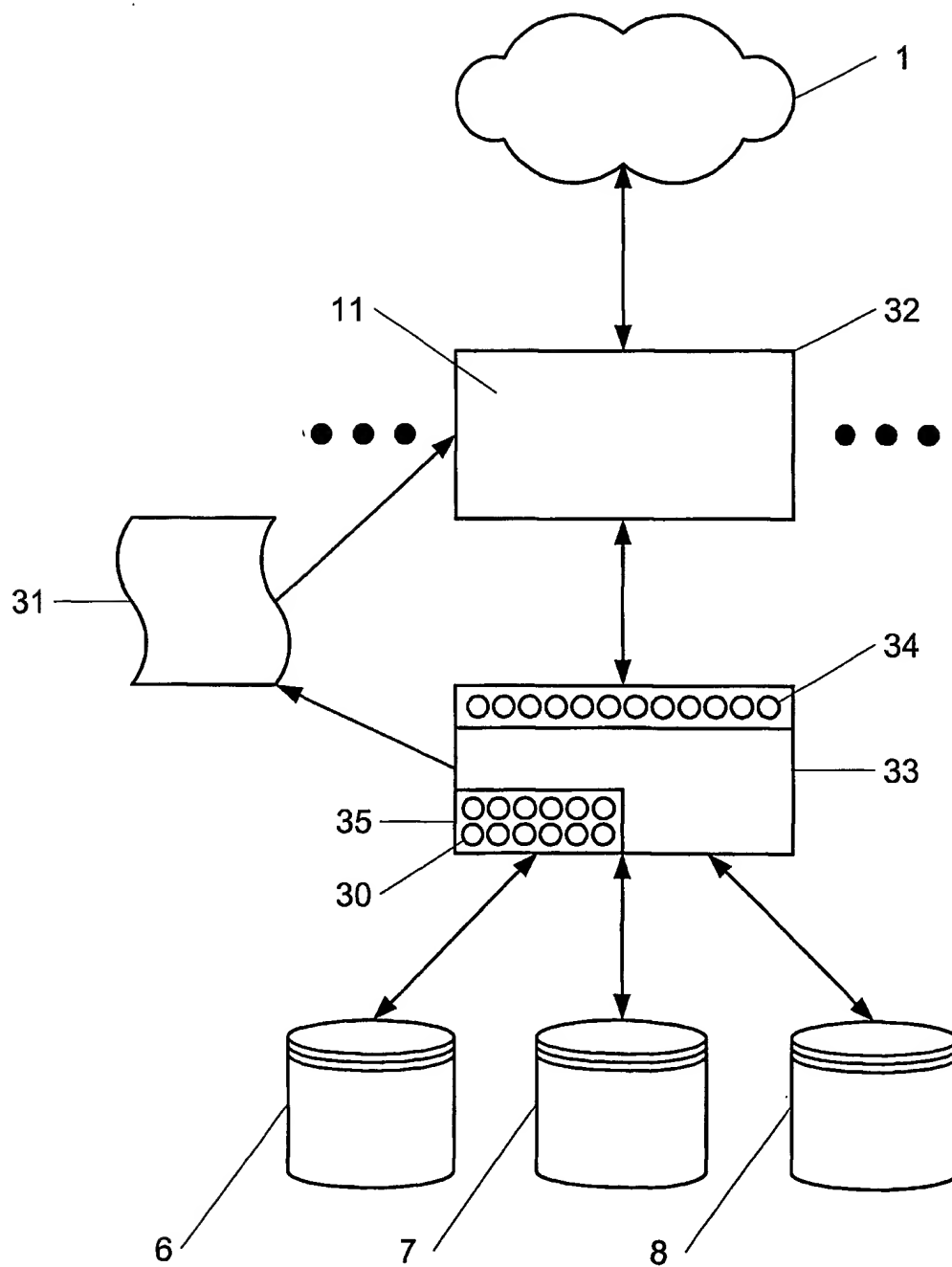
2/6

Fig. 2



3/6

Fig. 3





4/6

Fig. 4

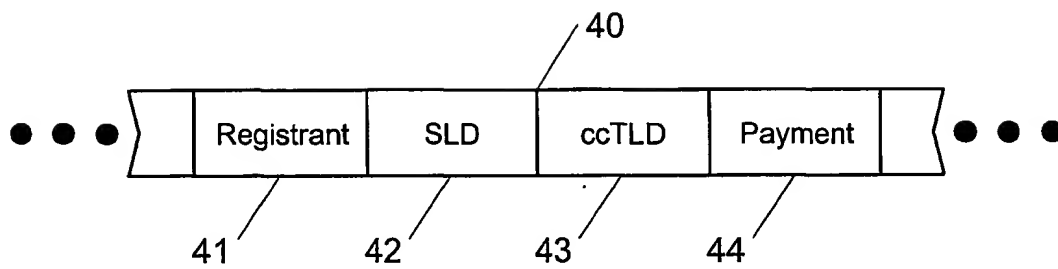


Fig. 5



[> HOME](#)  
 [> MAKE CHANGES](#)  
 [> PRODUCTS & SERVICES](#)  
 [> SITE MAP](#)  
 [> HELP](#)

## Search Results

[> Back to idNames from NSI](#)

[SEARCH](#)  
 [SELECTIONS](#)  
 [SETUP](#)  
 [REGISTER](#)  
 [CHECK OUT](#)

Your domain name is available in the following countries.

To register, check from the boxes below and click "Register all checked".

Price: \$199 per domain per year.

Processing time at each country registry varies. Your request could take between one and three weeks to complete.

[Register in every country](#)  
 [Clear all](#)  
 [Register all checked](#)

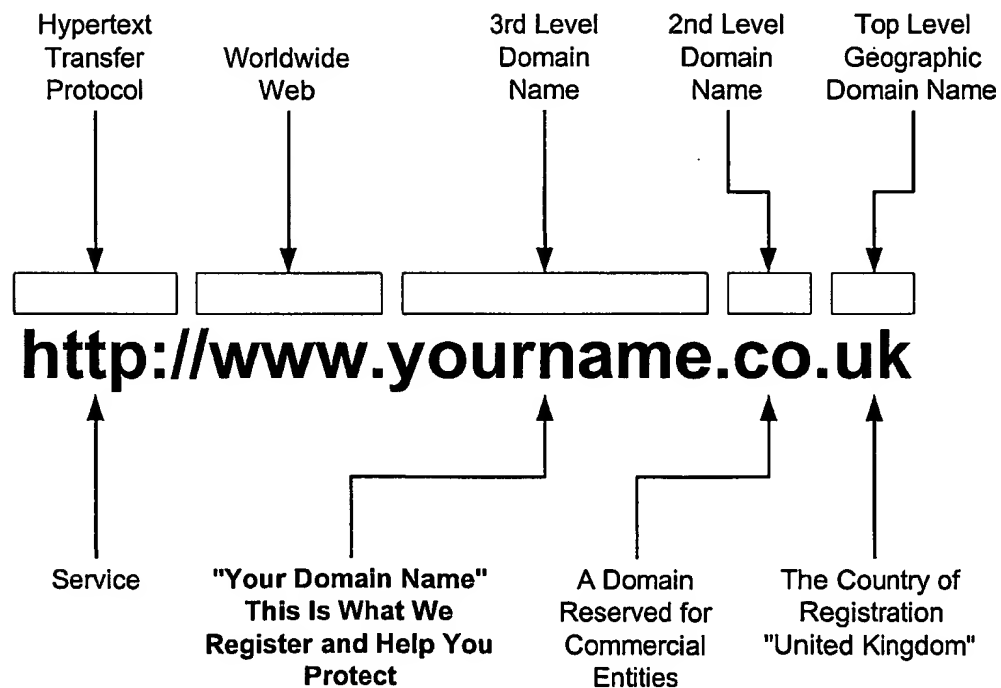
Summary: Total : 101 : Available : 99

Country	Domain
<input type="checkbox"/> American Samoa(.as)	idnames-search.as
<input type="checkbox"/> Argentina(.com.ar)	idnames-search.com.ar
<input type="checkbox"/> Armenia(.am)	idnames-search.am
<input type="checkbox"/> Ascension(.ac)	idnames-search.ac

6/6

Fig. 6

## Anatomy Of A Web Address



# ATENT COOPERATION TREATY

## PCT

### DECLARATION OF NON-ESTABLISHMENT OF INTERNATIONAL SEARCH REPORT

(PCT Article 17(2)(a), Rules 13ter.1(c) and Rule 39)


Applicant's or agent's file reference <b>F147122</b>	IMPORTANT DECLARATION	Date of mailing(day/month/year) <b>30/08/2001</b>
International application No. <b>PCT/US 01/ 17703</b>	International filing date(day/month/year) <b>01/06/2001</b>	(Earliest) Priority date(day/month/year) <b>02/06/2000</b>
International Patent Classification (IPC) or both national classification and IPC <b>G06F17/60</b>		
Applicant <b>NETWORK SOLUTIONS, INC.</b>		

This International Searching Authority hereby declares, according to Article 17(2)(a), that no international search report will be established on the international application for the reasons indicated below

1. ☒ The subject matter of the international application relates to:
  - a. ☐ scientific theories.
  - b. ☐ mathematical theories
  - c. ☐ plant varieties.
  - d. ☐ animal varieties.
  - e. ☐ essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes.
  - f. ☒ schemes, rules or methods of doing business.
  - g. ☐ schemes, rules or methods of performing purely mental acts.
  - h. ☐ schemes, rules or methods of playing games.
  - i. ☐ methods for treatment of the human body by surgery or therapy.
  - j. ☐ methods for treatment of the animal body by surgery or therapy.
  - k. ☐ diagnostic methods practised on the human or animal body.
  - l. ☐ mere presentations of information.
  - m. ☐ computer programs for which this International Searching Authority is not equipped to search prior art.
2. ☐ The failure of the following parts of the international application to comply with prescribed requirements prevents a meaningful search from being carried out:
 

☐ the description
☐ the claims
☐ the drawings
3. ☐ The failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions prevents a meaningful search from being carried out:
 

☐ the written form has not been furnished or does not comply with the standard.
 ☐ the computer readable form has not been furnished or does not comply with the standard.
4. Further comments:

Name and mailing address of the International Searching Authority,  European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3018	Authorized officer  <b>María Rodríguez Nóvoa</b>
---	--

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 203

The subject-matter claimed in claims 1-13,27-32,39-42 falls under the provisions of Article 17(2)(a)(i) and Rule 39.1(iii) PCT, such subject-matter relating to a method of doing business.

Claims 14-26,33-38 relate to commonplace technological features for performing the business method of the method claims. Although these claims do not literally belong to the method category, they essentially claim protection for the same commercial effect as the method claims. With reference to the Guidelines, B-VIII, points 1-6, the International Searching Authority considers that searching such commercial features would serve no useful purpose. This applies to the remaining commonplace technological features of these claims as well.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.